



Shasta County Department of Resource Management  
Environmental Health Division  
1855 Placer Street, Suite 201, Redding, CA 96001  
Phone: (530) 225-5787 • Fax: (530) 225-5413  
www.co.shasta.ca.us

## **CLEANING, DISINFECTING, AND FLUSHING DRINKING WATER STORAGE TANKS**

### **Overview**

This is a guidance document on the recommended steps for properly cleaning, disinfecting, and flushing potable water storage tanks.

### Tanks should be cleaned:

- Every 5 years (depending on water quality and system);
- Annually for seasonal water supplies during startup;
- If sediments and/or biological growth is observed inside the tank;
- If any repairs or modifications are done to the water system;
- If coliform bacteria is detected in the water system;
- If there are any noticeable changes in water quality (taste, odor, color issues).

### **Preparing to Clean Your Storage Tank**

You should have enough bottled water on hand for use while your storage tank is out of service. This is to protect public health due to the potential of highly chlorinated water in the distribution system.

### **STEP 1: Cleaning**

Use a long-handled brush and/or power washer to physically remove any built up debris, corrosion, bio-film and/or sediments accumulated in the tank. Use a portable pump or drain to flush out dirty water from the tank. Before the tank access hatch is opened, the hatch and immediate area around the tank shall be cleaned of all loose dirt and debris to prevent additional contamination to the tank.

### **STEP 2: Disinfecting**

Using the Disinfection Equation, determine the amount of chlorine bleach to add to the tank that will result in a tank full of water with a free chlorine residual of 10 parts per million (ppm). Add the calculated amount of bleach to the empty tank and fill the tank to the overflow level with water. Leave the tank filled for 24 hours.

For alternate tank disinfection methods, see the most recent version of AWWA Standard C652: Disinfection of Water Storage Facilities.

### **Disinfection Equation for Achieving a Concentration of 10ppm Free Chlorine in a Water Storage Tank**

- **Using 8/5% sodium hypochlorite (Concentrated Chlorox)**  
(tank volume in gallons x 10 ppm) / 1,000,000 x 0.85) = # gallons of 8.5% bleach needed

**Example for a 5,000 gallon tank:**

$$(5,000 \times 10) / (1,000,000 \times 0.085) = .6 \text{ gallons (a little more than a half a gallon)}$$
$$50,000 / 85,000 = .59 \text{ (rounded to .6)}$$

**STEP 3: Flushing**

After 24 hours has elapsed, flush out and empty the storage tank. Do not drain the tank into a septic system. Refill the tank and flush all affected taps until chlorine can no longer be smelled. If a portable pump is used, ensure that the intake hose is clean and wiped down with bleach to prevent contamination. Continue flushing until the waste water is clear and no chlorine odor is evident.

**STEP 4: Testing**

After the storage tank has been thoroughly flushed out, test for free chlorine residual to ensure it is non-detectable (or zero). This can be done using an approved HACH DPD color metric test kit. Once a non-detectable chlorine residual has been obtained, collect total coliform bacteria water samples. If the test results are negative for bacteria, the drinking water is considered safe to use and drink.